

CLAIMS

What is claimed is:

1. An apparatus for immersing a length of continuous material into an application pan containing liquid, the hold-down bar comprising:

5 a pair of laterally spaced mounting brackets;
a mounting bar laterally supported between the mounting brackets;
tubing mounted for rotation to the mounting bar, the tubing being adapted to rotate about a laterally extending axis; and

10 a hold-down bar comprising:
a first rod extending radially from the tubing, the first rod being adapted to rotate with the tubing about the laterally extending axis;
a second rod supported by the first rod, the second rod having an end; and

15 a contact supported by the end of the second rod, the contact being adapted to orbit around the mounting bar upon rotating the first rod.

2. The apparatus of claim 1, wherein the second rod is cantilevered relative to the first rod.

20 3. The apparatus of claim 1, wherein the contact includes a laterally extending shaft located at the end of the second rod.

25 4. The apparatus of claim 1, further including a plurality of laterally spaced contacts including the at least one contact, wherein the second rod includes another end and the contacts include a pair of laterally extending pins located at each of the ends of the second rod.

5. The apparatus of claim 1, wherein the contact includes a pulley mounted for rotation on the end of the second rod.

5 6. The apparatus of claim 1, further including a plurality of laterally spaced contacts including the at least one contact, wherein the second rod includes another end and the contacts include a pair of laterally extending pulleys mounted for rotation on each of the ends of the second rod.

10 7. The apparatus of claim 1, wherein the pulley is provided with an annular groove for receiving continuous material.

8. The apparatus of claim 1, wherein the second rod is supported at a 90 degree angle relative to the first rod.

15 9. The apparatus of claim 1, further including a third rod extending from the tubing, the third rod supporting a handle that is adapted for use by an operator for controlling the movement of the first rod.

20 10. The apparatus of claim 9, wherein the handle is weighted to function as a counter balance to aid the operator in moving the first rod.

25 11. The apparatus of claim 9, further including a stop bar laterally supported between the mounting brackets, the third rod being adapted to engage the stop bar to limit movement of the first rod.

12. The apparatus of claim 11, wherein the handle is in the form of a release handle comprised of:

a tubing having a lower end, a wall with a hole therein at the lower end, and a latch element extending radially from the lower end, the third rod having an upper end inserted through the hole and into the handle tubing, the third rod having a stop fixed thereto to limit travel of the third rod relative to the handle tubing;

a spring carried by the upper end of the third rod; and

a handle cap inserted in an upper end of the handle tubing, the cap having a lower end having a hole therein, a portion of the upper end of the third rod being pressed into the hole, the spring being retained in a cavity defined by the handle tubing between the wall at the lower end of the tubing and the lower end of the cap, the tubing being adapted to be pulled up axially relative to the third rod in opposition to the spring, the latch being adapted to engage the stop bar.

13. The apparatus of claim 12, wherein the stop bar is in the form of an inverted U-shaped member which carries an elongate piece of angle stock, a portion of the angle stock being adapted to fit in a space defined between the latch and the lower end of the tubing to trap the portion of the angle stock in the space.

14. The apparatus of claim 12, further including means for maintaining the latch in a substantially fixed radial position relative to the third rod.

15. The apparatus of claim 12, further including:

a transverse pin supported by the third rod; and

a slot in the lower end of the handle tubing, the slot receiving the pin to prevent the handle tubing from twisting relative to the third rod.

16. The apparatus of claim 15, wherein the pin is adapted to move in the slot in a direction parallel to a central axis of the third rod to permit the handle tubing to move axially relative to the third rod.

5 17. An apparatus for treating a length of continuous material, the apparatus comprising:

an application pan that is adapted to contain a quantity of liquid, the pan having an open top through which continuous materials are adapted to be guided into the pan;

10 at least one guide provided at a front end of the pan through which continuous materials are adapted to be guided;

at least one stripper die provided at the rear end of the pan which are adapted to remove excess liquid from the continuous materials;

15 a hold-down bar located between the front and rear ends of the pan, the hold-down bar being adapted to rotate about an axis that extends laterally relative to the application pan; and

a strand rod located between the hold-down bar and the stripper die for guiding the continuous materials into the stripper dies.

20 18. The apparatus of claim 17, further including a plurality of laterally spaced guides including the at least one guide, a plurality of laterally spaced stripper dies including the at least one stripper die, and a plurality of laterally spaced hold-down bars including the at least one hold-down bar.

25 19. The apparatus of claim 18, wherein each one of the hold-down bars is fitted with a pair of guide pulleys.

20. The apparatus of claim 19, wherein the pulleys are made of polished steel.

21. The apparatus of claim 19, wherein the pulleys are removable.

22. The apparatus of claim 19, wherein the pulleys are made of ceramic.

23. The apparatus of claim 18, wherein each one of the hold-down bars is fitted with a pair of flanged pins.

24. The apparatus of claim 17, further including laterally spaced brackets and a mounting bar that is supported on the laterally spaced mounting brackets, the hold-down bar being mounted for rotation on the mounting bar.

25. The apparatus of claim 24, further including a stop bar for limiting movement of the hold-down bar, the stop bar being provided in front of the mounting bar to limit the downward movement of the hold-down bar.

26. The apparatus of claim 25, further including another stop bar provided to the rear of the mounting bar to limit the movement of the hold-down bar when the hold-down bars are being lifted up.

27. A method for immersing a length of continuous material into an application pan containing liquid, the method comprising the steps of:

- a) lifting a hold-down bar up out of an application pan;
- b) threading a length of continuous material; and
- c) pivoting the hold-down bar down to immerse the continuous material into the liquid contained in the pan.

28. The method of claim 27, following step c), further comprising the step
of:

d) latching the hold-down bar in a substantially fixed position.

29. The method of claim 27, following step c), further comprising the steps
of:

d) winding the continuous material onto a mandrel; and

e) rotating the mandrel to advance the continuous material through
the liquid.

30. The method of claim 27, wherein the threading step further comprises
the steps of:

i) threading the continuous material through a guide;

ii) threading the continuous material under a contact supported by
the hold-down bar; and

iii) threading the continuous material through a stripper die.

31. The method of claim 30, wherein step ii) further comprising the step of
threading the continuous strand over a strand rod.